CLAIMS

What Is Claimed Is:

Claim 1. An air blower system, comprising:

a compression unit for compressing and directing air flow; and

a plenum chamber operatively connected to the compression unit, the plenum chamber having a plenum member forming an interior wall with a curvilinear interior surface, the plenum member curvilinear interior surface having a plurality of predetermined surface indentations to enable the formation of a predetermined amount of controlled local turbulence adjacent the curvilinear interior surface to reduce friction and suppress noise as the compressed air moves across the curvilinear interior surface.

Claim 2. The air blower system of Claim 1, further comprising:

an air filter, the air filter suitably positioned to filter air one of before and after induction to the compression unit.

Claim 3. The air blower system of Claim 1,

wherein the plenum member is removable from the plenum chamber, the removable plenum member being formed in one piece from a semi-rigid material.

Claim 4. The air blower system of Claim 1,

wherein the plenum member is formed as an irremovable part of the plenum chamber.

Claim 5. The air blower system of Claim 1,

wherein the plenum member curvilinear interior surface indentations are irregular to reduce friction and suppress noise with harmonic vibration components.

Claim 6. The air blower system of Claim 5,

wherein the plenum member curvilinear interior surface indentations vary in depth.

Claim 7. The air blower system of Claim 5,

wherein the plenum member curvilinear interior surface indentations are irregularly spaced.

Claim 8. A warm air blower system, comprising:

a compression unit for compressing and directing air flow;

a plenum chamber operatively connected to the compression unit, the plenum chamber having a plenum member forming an interior wall with a curvilinear interior surface, the plenum member curvilinear interior surface having a plurality of predetermined surface indentations to enable the formation of a predetermined amount of controlled local turbulence adjacent the curvilinear interior surface to reduce friction and suppress noise as the compressed air moves across the curvilinear interior surface; and

a heater unit for heating the directed air.

Claim 9. The warm air blower system of Claim 8, further comprising:

an air filter, the air filter suitably positioned to filter air one of before and after induction to the compression unit.

Claim 10. The warm air blower system of Claim 8,

wherein the plenum member is removable from the plenum chamber, the removable plenum member being formed in one piece from a semi-rigid material.

Claim 11. The warm air blower system of Claim 8,

wherein the plenum member is formed as an irremovable part of the plenum chamber.

Claim 12. The warm air blower system of Claim 8, further comprising:

a mounting apparatus for releasably mounting the warm air blower system to a mounting member.

Claim 13. The warm air blower system of Claim 12,

wherein the mounting member is a support pole, a bed, or a floor rolling cart.

Claim 14. The warm air blower system of Claim 8,

wherein the plenum member curvilinear interior surface indentations are irregular to reduce friction and suppress noise with harmonic vibration components.

Claim 15. The warm air blower system of Claim 14,

wherein the plenum member curvilinear interior surface indentations vary in depth.

Claim 16. The warm air blower system of Claim 14,

wherein the plenum member curvilinear interior surface indentations are irregularly spaced.

Claim 17. The warm air blower system of Claim 8, further comprising:

a temperature sensor for measuring the temperature of the heated air; the temperature sensor being located in close proximity to where the heated air is supplied to a cooperative receiving unit, and

a control unit to control and monitor the temperature of the heated air, the control unit allowing the selection of a predetermined set temperature of the heated air, the control unit capable of testing the operability of the warm air blower system, the control unit being responsive to a heated air over-temperature condition, the control unit being responsive to a heated air under-temperature condition.

Claim 18. The warm air blower system of Claim 17,

wherein the control unit allows a selection of ambient temperature so that unheated air is delivered by the warm air blower system.

Claim 19. The warm air blower system of Claim 17,

wherein the predetermined set temperature is selected from the group consisting of 36°C, 40°C, and 44°C, the actual temperature of the heated air varying by ± 1°C from the selected set temperature.

Claim 20. The warm air blower system of Claim 19,

wherein the control unit has a heated air over-temperature safety limit of 3°C above the set temperature, the control unit detecting the over-temperature safety limit has been reached causes the warm air blower system to cease heating and air blowing, the control unit providing one or more indications of the heated air over-temperature condition, the indications being audible and visible.

Claim 21. The warm air blower system of Claim 20,

wherein the control unit has a manually operated heated air over-temperature test mechanism whereby the heater unit is energized to exceed the selected set temperature, the heated air temperature gradually increasing until the heated air over-temperature safety limit for the predetermined set temperature is reached, the control unit

responding to the over temperature condition by ceasing heating and blowing thereby verifying the proper operation of the control unit safety systems.

Claim 22. A warm air blower system, comprising:

a compression unit for compressing and directing air flow;

a plenum chamber operatively connected to the compression unit, the plenum chamber having a plenum member forming an interior wall with a curvilinear interior surface, the plenum member curvilinear interior surface having a plurality of predetermined surface indentations to enable the formation of a predetermined amount of controlled local turbulence adjacent the curvilinear interior surface to reduce friction and suppress noise as the compressed air moves across the curvilinear interior surface;

a heater unit for heating the directed air;

a temperature sensor for measuring the temperature of the heated air; the temperature sensor being located in close proximity to where the heated air is supplied to a cooperative receiving unit, and

a control unit to control and monitor the temperature of the heated air, the control unit allowing the selection of a predetermined set temperature of the heated air, the control unit capable of automatically testing the operability of the warm air blower system, the control unit being responsive to a heated air over-temperature condition, the control unit being responsive to a heated air under-temperature condition,

wherein the control unit provides an manually operated heated air over-temperature test to verify the proper response of the control unit to a heated air over-temperature condition, the control unit detecting the over-temperature safety limit has been reached causes the warm air blower system to cease heating and air blowing, the control unit providing one or more indications of the heated air over-temperature condition, the indications being audible and visible.

Claim 23. The warm air blower system of Claim 22,

wherein the manually operated heated air over-temperature test has an upper temperature limit that is based on the predetermined set temperature selected by the operator.